

## Distribution-Major Construction

Boone Co Water District

Facility Requirements

Activity ID No.: APE20050012

Page 5 of 6

### Monitoring Requirements:

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Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

### Narrative Requirements:

#### Additional Limitations:

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Condition No.	Condition
T-1	<b>Additional Limitations:</b> Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-2	<b>Additional Limitations:</b> Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). [Recommended Standards for Water Works 8.0.1]
T-3	<b>Additional Limitations:</b> At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]
T-4	<b>Additional Limitations:</b> All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]
T-5	<b>Additional Limitations:</b> A fire hydrant or blow-off shall be required at the end of each dead end line. [Recommended Standards for Water Works 8.1.6]
T-6	<b>Additional Limitations:</b> For each fire hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]

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Facility Requirements

Activity ID No.: APE20050012

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### Narrative Requirements:

#### Additional Limitations:

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Condition No.	Condition
T-7	<p><b>Additional Limitations:</b> No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]</p>
T-8	<p><b>Additional Limitations:</b> If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]</p>
T-9	<p><b>Additional Limitations:</b> No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]</p>
T-10	<p><b>Additional Limitations:</b> If a fire sprinkler system is to be installed, a double check detector assembly approved for backflow prevention shall be utilized. The double check detector assembly of the system shall be accessible for testing. [401 KAR 8:100 Section 1(7)]</p>

EXHIBIT J

PRELIMINARY AND FINAL ENGINEERING PLANS AND SPECIFICATIONS



**TETRA TECH, INC.**

July 1, 2005

Mr. James Parsons, County Administrator  
Boone County Fiscal Court  
2950 Washington Square  
Burlington, Ky. 41005

**Re: Boone County Rural Water Project  
Engineering Report**

Tetra Tech, Inc. has prepared this engineering report for the Boone County Fiscal Court, which describes the Boone County Rural Water Project. This report was prepared as a part of the Phase II planning and design for this project. The report outlines the program objectives of the County and the planning and public participation involved in developing the project and the final scope of the Phase II project. This report will also be utilized to support the funding application and Public Service Commission application for the implementation of the project.

**BACKGROUND**

The Boone County Fiscal Court has initiated a water system program to extend water service to the rural areas of Boone County. This program is to address the concerns that Boone County has significantly less water service available to County residents than the other Kentucky Counties. The overall objective of the program was to allow many of the County rural areas to have the opportunity for public water service.

This program began in 2000 with initial planning for extending water service throughout the County. The initial effort, Phase I of the project has been designed and constructed. The Phase I project, identified as "Sub-district A" provides service to the following areas:

- 1A: Big Bone Rd/Rice Pike/Beaver Rd./U.S. 42
- 1C: Idlewild Rd./ Idlewild by-pass to I-275-Ky. 20/Bullitsburg Church Rd.  
Side Streets: Idlebrook Subv./ Blackberry Hill/Raspberry Ct.
- 1D: Bullittsville Rd./Fawn Ln.
- 1C: Idlewild Side Streets; Feeley Rd./Eason Ln./ Akin Ln.



The construction of the Phase I project was initiated in July 2002. The work included some 140,900 feet (26.7 miles) of 8" and 12" water main with appurtenances for a total construction cost of approximately \$4,595,000. Construction was substantially completed for the transmission main areas in October 2003 and in the remaining Idlewild Road side street areas by December 2004.

The Phase II program, referred to as "Sub-district B", was initiated in March of 2003 to assess further extension of the water mains to the rural area customers. The Phase II program is more fully described in this report.

### **Rural Program Planning**

The overall rural water program plan was initially prepared for the Boone County Fiscal Court in July 2000. This plan included extension of the water mains to the Phase I area and to the west and south sections of the County to the following areas:

Ky. 20 from Idlewild Rd to Petersburg to Belleview to Ky 18 to loop and along Ky. 18 back to Burlington (existing water system)

Ky. 338-East Bend Rd to Waterloo to McVile and to Ky 18 proposed main as noted above. This would provide a 12 " water main loop in central Boone County

From Big Bone Church Rd to Beaver Rd to loop with the existing Big Bone Rd water main

Water mains on side streets along these water main routes with significant residents/potential customers

Water mains in the communities of Petersburg and Belleview/McVile

This service area and original plan would include some 220,000 feet (41 miles) of water main at a construction cost of some \$10,000,000. The new water service would provide service to some 1,110 existing residents. In addition to the water mains, additional water storage and pressure reducing valves would have to be provided to extend the water service to the western most areas of the County.

A more detailed evaluation of the customer counts and locations was performed relative to the proposed water mains. To address the feasibility the customer density was determined, which is defined as the number of customers per mile. The feasibility point utilized for determining the potential water main extension was a minimum of 17 customers/mile. Customer counts were estimated utilizing the existing Boone County GIS mapping initially, but site visits were conducted to confirm the final estimates. Utilizing this criteria the next phase of the water program (Phase II) was defined as



shown in the attached Figure Phase I & II Location Map. The following project areas were defined and the project descriptions are provided as follows:

**Phase 2A – Big Bone Church Road to Gum Branch Rd.**

The Phase 2A Project consists of extending the water main from Big Bone Rd. approximately 8,200 feet of 8” ductile iron water main along Big Bone Church Road to Gum Branch Rd.. In addition, water mains are proposed for side streets including Michelle Dr., Brian Ct., Kirby Ln., and Forest View Dr. (approx. 6,500 feet). The water mains will be constructed along the County roadways, primarily within the road right of way. There are 2 properties that require easements on private property which would be acquired. The construction will mainly be open cut excavation as shown in the plans. The project will extend water service to rural areas and provide fire protection.. This water main would potentially provide service to some 60 existing homes in this service area. The estimated construction cost for the Phase 2A water main extension is \$665,000.

**PHASE 2B AND PHASE 2D – EAST BEND RD. (SR338) TO LOCUST GROVE RD. (PHASE 2B) AND SIDE STREETS (PHASE 2D).**

The Phase 2B and 2D Projects consists of installation of approximately 21,500 feet of 12” water main along East Bend Rd from Burlington to Locust Grove Rd (Phase 2B). In addition, 8” water mains are proposed on side streets including, Emerald Dr., Possum Path, Kirby Dr., Wolfe Rd., and Locust Grove Rd (17,000 feet-Phase 2D). The water mains will be constructed mainly along the State and County roadways, primarily within the road right of way. There are 2 properties on Phase 2D that require easements on private property. The construction will mainly be open cut excavation as shown in the plans. The project will extend water service to rural areas and provide fire protection. This water main would potentially provide service to approximately 270 existing homes in this area. The estimated construction cost for Phase 2B and 2D combined is approximately \$2,000,000.

**PHASE 2C – PETERSBURG RD. (KY 20) FROM IDLEWILD RD. WEST .**

The Phase 2C Project consists of installation of approximately 10,500 feet of 8” water main along Ky 20/Petersburg Rd. west of Idlewild Rd. to approximately 2000 feet west of Ashby Fork Rd. In addition, 8” water mains are proposed on side streets including, Anson Ln., Brewer Ln., and Caribou Dr. (6,900 feet). The water mains will be constructed mainly along the State, County, and private roadways, primarily within the road right of way/edge of road. There is one property owner (2 parcels) where an easement is required and an agreement with the Homeowner Association for access along the private drive. The construction will mainly be open cut excavation as shown in the



## **TETRA TECH, INC.**

plans. The project will extend water service to rural areas and provide fire protection. This water main would provide service to approximately 70 existing homes in this area. The estimated construction cost for Phase 2C is approximately \$770,000.

A summary table for the proposed Phase II project indicating the potential customers, density, and estimated construction and project cost is shown in Figure II. The total estimated project cost for Phase II is approximately \$4,000,000 including a 10% contingency and engineering, legal, and finance costs. The estimated potential customers for Phase II as described above is some 400 residents.

### **Public Meetings and Customer Commitments**

The Boone County Fiscal Court conducted public meetings to solicit interest and general commitment and support of the proposed water main project. A general public meeting was held in 2004 at Burlington Elementary School to outline the overall plan for the Phase II system. Descriptions of the project areas and maps and preliminary plans of the proposed project was presented. A sign up sheet for those interested in connecting was provided as a preliminary indication of interest. The County reviewed this information and other comments received during and after the meeting and the proposed project was adjusted to the location plan as presented above and in the attached Figure (Phase I & II Location Plan). A proposed water main on Ky. 18 and Woolper Rd was eliminated as were some streets off East Bend Rd. due to the comments received at these meetings.

Final public meetings were held on the project in March 2005. Three meetings were held to solicit final comments and commitments from the residents along the water main routes. The three meetings covered separately the 2A area, 2B and 2D area, and the 2C area of the project locations. At the meeting the residents were advised of the project scope, plans and specifications, cost estimate, schedule, and proposed user fees.

They were requested to indicate their commitment by paying the tap in fee (\$625). Based on these commitments the final project scope and limits will be determined. Boone County has received commitments for over 50% of the residents to tap into the water main through June 2005 and are proceeding to finalize the project for bidding and construction.

### **Design Plans/Specifications/Permits**

Tetra Tech, Inc. prepared the final design plans and specifications for the Phase II project for the locations approved by the County. The detailed plans/specs were coordinated with the Boone County Water District and submitted to the Kentucky Division of Water (KDOW) for approval. As a part of the KDOW permit, a hydraulic model of the proposed water system was provided. Originally a system wide model for the entire Boone County system was developed by CDM as a subcontract to Tetra Tech. This model was initially completed in September 2003 and then finalized for Boone County in



November 2004. This system wide model was provided to KDOW and the Public Service Commission. Tetra Tech completed a hydraulic analysis of the Phase II project areas to address the main routes and side streets as part of the KDOW permit submission.

In addition, the plans were submitted to the Kentucky Division of Highways and the Boone County Public Works Department for an Encroachment permit and approvals. These permits were approved in June 2005 and have been incorporated into the project requirements.

### **Financing Plan**

The Boone County Fiscal Court plans to finance this \$4.0 million project through the Kentucky Infrastructure Authority (KIA) with a low interest loan. In addition, the County has received a grant for the project engineering and construction for \$1,000,000. The projected loan amount would be approximately \$3.0 million with a 2.73% interest rate subject to final approval of the loan by KIA. The proposed user charge would be the same as for the Phase I project. The customers would pay the normal Boone County Water District base rate for usage and tap fees. A surcharge of \$25.00/month will be added to the monthly bill to pay back the Phase II project cost/debt. A financing plan was prepared by RSA, the financial consultant to Boone County for this project. This is also included in the Public Service Commission (PSC) application documentation as part of the approval for the project and user charges.

### **Operations Plan/Agreements**

The water system is being constructed by the Boone County Fiscal Court who is paying for the project related costs. The system will be operated by the Boone County Water District in accordance with an Agreement with the Boone County Fiscal Court. This Agreement identifies specific requirements for the water supply from the Boone-Florence Water Commission, who provides the water supply from Cincinnati Water Works. It also includes Boone County Water District's responsibilities for operation, maintenance, meter reading, user charge collections, and customer service for these water mains. Upon repayment of the loan/debt for the Phase II project costs, the water mains and ownership will be turned over to the Boone County Water District per the terms of the Agreement. The proposed Agreement regarding this Operations plan are included in the PSC application for this project as well.

### **Proposed Project Schedule**

A preliminary schedule for implementation of the project has been prepared based on assumptions that the timely approvals from PSC will be received. The anticipated schedule for the project and milestone completion dates are summarized as follows:



**TETRA TECH, INC.**

Approval of Permits KDOW	June 2005
Complete/Submit PSC Application	July 15, 2005
Easement Acquisition (6 properties)	August 15, 2005
Application for KIA funding	July 2005
Approval PSC/Authorization to Award	September 1, 2005

Bid Projects:	Contract 2C	September 1, 2005
	Contract 2B	November 1, 2005
	Contract 2D	January 1, 2006
	Contract 2A	March 1, 2006

The schedule from bidding to the award of the construction contract to the selected Contractor is estimated to take approximately 60 days. This may be impacted by approvals related to the KIA loan requirements. The project is phased to allow additional commitments from residents to tap in. However, the County may modify the schedule to increase or decrease the overall time frame based on final commitments and needs. Construction completion time for each contract is estimated as follows based on the bid and award date assumptions as noted above:

Complete Construction	Contract 2C	(6 months)	May 2006
	Contract 2B	(7 months)	August 2006
	Contract 2D	(6 months)	September 2006
	Contract 2A	(5 months)	October 2006

Tetra Tech appreciates the opportunity to work with Boone County on this important project. Should you have any questions on this project, please advise.

Sincerely,

Dennis P. Huber, P.E.  
Principal

Attachments:

EXHIBIT K

MAP OF THE PROPOSED PROJECT AREA

EXHIBIT L

GENERAL DESCRIPTION OF THE PROJECT AREA

**Boone County Rural Water Project  
Phase II- Sub-district B  
Project Description**

The following is a project description for the various sections of the Phase II Rural water project. These new project extends the existing water service from the Phase I area (Sub-district A).

**Phase 2A – Big Bone Church Road to Gum Branch Rd.**

The Phase 2A Project consists of extending the water main from Big Bone Rd. approximately 8,200 feet of 8” ductile iron water main along Big Bone Church Road to Gum Branch Rd.. In addition, water mains are proposed for side streets including Michelle Dr., Brian Ct., Kirby Ln., and Forest View Dr. (approx. 6,500 feet). The water mains will be constructed along the County roadways, primarily within the road right of way. There are 2 properties that require easements on private property which would be acquired. The construction will mainly be open cut excavation as shown in the plans. The project will extend water service to rural areas and provide fire protection. This water main would potentially provide service to some 60 existing homes in this service area. The estimated construction cost for the Phase 2A water main extension is \$665,000.

**PHASE 2B AND PHASE 2D – EAST BEND RD. (SR338) TO LOCUST GROVE RD. (PHASE 2B) AND SIDE STREETS (PHASE 2D).**

The Phase 2B and 2D Projects consists of installation of approximately 21,500 feet of 12” water main along East Bend Rd from Burlington to Locust Grove Rd (Phase 2B). In addition, 8” water mains are proposed on side streets including, Emerald Dr., Possum Path, Kirby Dr., Wolfe Rd., and Locust Grove Rd (17,000 feet-Phase 2D). The water mains will be constructed mainly along the State and County roadways, primarily within the road right of way. There are 2 properties on Phase 2D that require easements on private property. The construction will mainly be open cut excavation as shown in the plans. The project will extend water service to rural areas and provide fire protection. This water main would potentially provide service to approximately 270 existing homes in this area. The estimated construction cost for Phase 2B and 2D combined is approximately \$2,000,000.

**PHASE 2C – PETERSBURG RD. (KY 20) FROM IDLEWILD RD. WEST .**

The Phase 2C Project consists of installation of approximately 10,500 feet of 8" water main along Ky 20/Petersburg Rd. west of Idlewild Rd. to approximately 2000 feet west of Ashby Fork Rd. In addition, 8" water mains are proposed on side streets including,

Anson Ln., Brewer Ln., and Caribou Dr. (6,900 feet). The water mains will be constructed mainly along the State, County, and private roadways, primarily within the road right of way/edge of road. There is one property owner (2 parcels) where an easement is required and an agreement with the Homeowner Association for access along the private drive. The construction will mainly be open cut excavation as shown in the plans. The project will extend water service to rural areas and provide fire protection. This water main would provide service to approximately 70 existing homes in this area. The estimated construction cost for Phase 2C is approximately \$770,000.

The proposed Phase II project is shown in the attached Figure. The Figure also indicates the Phase I project that has been previously completed. The total estimated project cost for Phase II is approximately \$4,000,000 including a 10% contingency and engineering, legal, and finance costs. The estimated potential customers is some 400 for this Phase.

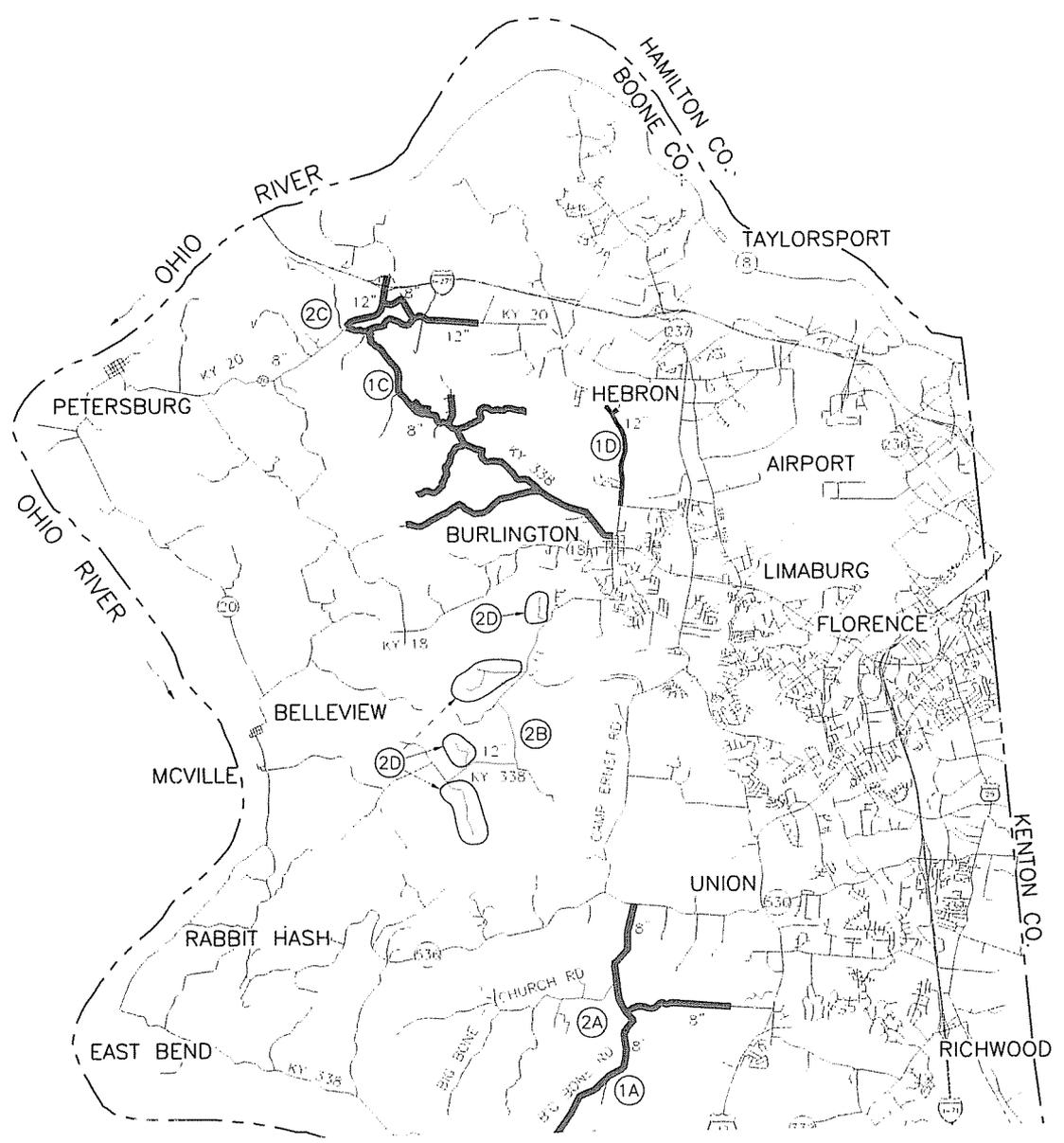


EXHIBIT M

BID TABULATIONS

<b>BOONE COUNTY FISCAL COURT</b>						
<b>PHASE II - WATER MAIN EXTENSION</b>						
<b>COMBINED BIDS - AUGUST 31, 2005</b>						
<b>Combined Bid #1</b>	<b>Contract 2A</b>	<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2A+2B/C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00	\$ 660,700.00	\$ 2,242,275.00	\$ 44,845.50	\$ 2,197,429.50
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55	\$ 643,103.30	\$ 2,593,976.60	\$ -	\$ 2,593,976.60
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00	\$ 760,940.00	\$ 2,658,075.00	\$ 25,000.00	\$ 2,633,075.00
Lonkard Const Co.	\$ 778,812.50					
GM Pipeline, Inc.		\$ 1,764,325.00	\$ 700,790.00			
Paul Rack Excavating			\$ 660,902.00			
<b>Combined Bid #2</b>	<b>Contract 2A</b>	<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2A+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00	\$ 660,700.00	\$ 1,221,775.00	\$ 24,435.50	\$ 1,197,339.50
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55	\$ 643,103.30	\$ 1,204,417.35	\$ -	\$ 1,204,417.35
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00	\$ 760,940.00	\$ 1,421,775.00	\$ 50,000.00	\$ 1,371,775.00
Lonkard Const Co.	\$ 778,812.50					
GM Pipeline, Inc.		\$ 1,764,325.00	\$ 700,790.00			
Paul Rack Excavating			\$ 660,902.00			
<b>Combined Bid #3</b>	<b>Contract 2A</b>	<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2B/C+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00	\$ 660,700.00	\$ 2,341,900.00	\$ 46,838.00	\$ 2,295,062.00
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55	\$ 643,103.30	\$ 2,675,765.85	\$ 10,000.00	\$ 2,665,765.85
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00	\$ 760,940.00	\$ 2,758,180.00	\$ 32,500.00	\$ 2,725,680.00
Lonkard Const Co.	\$ 778,812.50					
GM Pipeline, Inc.		\$ 1,764,325.00	\$ 700,790.00	\$ 2,465,115.00	\$ 10,000.00	\$ 2,455,115.00
Paul Rack Excavating			\$ 660,902.00			
<b>Combined Bid #4</b>	<b>Contract 2A</b>	<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2A+2B/C+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00	\$ 660,700.00	\$ 2,902,975.00	\$ 58,059.50	\$ 2,844,915.50
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55	\$ 643,103.30	\$ 3,237,079.90	\$ 20,000.00	\$ 3,217,079.90
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00	\$ 760,940.00	\$ 3,419,015.00	\$ 100,000.00	\$ 3,319,015.00
Lonkard Const Co.	\$ 778,812.50					
GM Pipeline, Inc.		\$ 1,764,325.00	\$ 700,790.00			
Paul Rack Excavating			\$ 660,902.00			

<b>BOONE COUNTY FISCAL COURT</b>						
<b>PHASE II - WATER MAIN EXTENSION</b>						
<b>COMBINED BIDS - AUGUST 31, 2005</b>						
<b>Combined Bid #1</b>						
	<b>Contract 2A</b>	<b>Contract 2B/D</b>		<b>SUM 2A+2B/C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00		\$ 2,242,275.00	\$ 44,845.50	\$ 2,197,429.50
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55		\$ 2,593,976.60	\$ -	\$ 2,593,976.60
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00		\$ 2,658,075.00	\$ 25,000.00	\$ 2,633,075.00
Lonkard Const Co	\$ 778,812.50					
GM Pipeline, Inc.		\$ 1,764,325.00				
Paul Rack Excavating						
<b>Combined Bid #2</b>						
	<b>Contract 2A</b>		<b>Contract 2C</b>	<b>SUM 2A+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00		\$ 660,700.00	\$ 1,221,775.00	\$ 24,435.50	\$ 1,197,339.50
Lykins Contracting, Inc.	\$ 561,314.05		\$ 643,103.30	\$ 1,204,417.35	\$ -	\$ 1,204,417.35
The Armrel - Byrnes Co.	\$ 660,835.00		\$ 760,940.00	\$ 1,421,775.00	\$ 50,000.00	\$ 1,371,775.00
Lonkard Const Co.	\$ 778,812.50					
GM Pipeline, Inc.			\$ 700,790.00			
Paul Rack Excavating			\$ 660,902.00			
<b>Combined Bid #3</b>						
		<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2B/C+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc		\$ 1,681,200.00	\$ 660,700.00	\$ 2,341,900.00	\$ 46,838.00	\$ 2,295,062.00
Lykins Contracting, Inc		\$ 2,032,662.55	\$ 643,103.30	\$ 2,675,765.85	\$ 10,000.00	\$ 2,665,765.85
The Armrel - Byrnes Co.		\$ 1,997,240.00	\$ 760,940.00	\$ 2,758,180.00	\$ 32,500.00	\$ 2,725,680.00
Lonkard Const Co.						
GM Pipeline, Inc		\$ 1,764,325.00	\$ 700,790.00	\$ 2,465,115.00	\$ 10,000.00	\$ 2,455,115.00
Paul Rack Excavating			\$ 660,902.00			
<b>Combined Bid #4</b>						
	<b>Contract 2A</b>	<b>Contract 2B/D</b>	<b>Contract 2C</b>	<b>SUM 2A+2B/C+2C</b>	<b>Deduct</b>	<b>Combined Bid</b>
Howell Contractors, Inc	\$ 561,075.00	\$ 1,681,200.00	\$ 660,700.00	\$ 2,902,975.00	\$ 58,059.50	\$ 2,844,915.50
Lykins Contracting, Inc.	\$ 561,314.05	\$ 2,032,662.55	\$ 643,103.30	\$ 3,237,079.90	\$ 20,000.00	\$ 3,217,079.90
The Armrel - Byrnes Co.	\$ 660,835.00	\$ 1,997,240.00	\$ 760,940.00	\$ 3,419,015.00	\$ 100,000.00	\$ 3,319,015.00
Lonkard Const Co	\$ 778,812.50					
GM Pipeline, Inc		\$ 1,764,325.00	\$ 700,790.00			
Paul Rack Excavating			\$ 660,902.00			

**BOONE COUNTY FISCAL COURT  
PHASE II - CONTRACT 2C - WATER MAIN EXTENSION  
CERTIFIED BID TABULATION - AUGUST 31, 2005**

Item No.	Description	Quantity	Unit	Lykins Contracting, Inc.		Howell Contractors, Inc		Paul Rack Excavating		GM Pipeline, Inc.		The Armrel - Byrnes Co.	
				Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost	Unit Price	Cost
1	8" DI Pipe - Class 50	17400	LF	\$ 26.85	\$ 467,190.00	\$ 28.50	\$ 495,900.00	\$ 28.00	\$ 487,200.00	\$ 31.85	\$ 554,190.00	\$ 32.00	\$ 556,800.00
2	6" Fire Hydrant Assem Complete	29	EA	\$ 2,485.00	\$ 72,065.00	\$ 2,400.00	\$ 69,600.00	\$ 2,400.00	\$ 69,600.00	\$ 2,100.00	\$ 60,900.00	\$ 2,200.00	\$ 63,800.00
3	6" Fire Hydrant Stub	4	EA	\$ 965.00	\$ 3,860.00	\$ 1,000.00	\$ 4,000.00	\$ 673.00	\$ 2,692.00	\$ 900.00	\$ 3,600.00	\$ 815.00	\$ 3,260.00
4	8" Valve w/ Valve Box	22	EA	\$ 675.15	\$ 14,853.30	\$ 750.00	\$ 16,500.00	\$ 720.00	\$ 15,840.00	\$ 700.00	\$ 15,400.00	\$ 780.00	\$ 17,160.00
5	12" Tee/Bend/Reducer	2	EA	\$ 2,045.00	\$ 4,090.00	\$ 1,000.00	\$ 2,000.00	\$ 300.00	\$ 600.00	\$ 750.00	\$ 1,500.00	\$ 335.00	\$ 670.00
6	Connect to Existing Water Line	1	EA	\$ 1,350.00	\$ 1,350.00	\$ 1,000.00	\$ 1,000.00	\$ 100.00	\$ 100.00	\$ 500.00	\$ 500.00	\$ 2,400.00	\$ 2,400.00
7	Jack & Bore	50	LF	\$ 128.50	\$ 6,425.00	\$ 200.00	\$ 10,000.00	\$ 350.00	\$ 17,500.00	\$ 230.00	\$ 11,500.00	\$ 350.00	\$ 17,500.00
8	Restoration Complete	17400	LF	\$ 3.55	\$ 61,770.00	\$ 3.00	\$ 52,200.00	\$ 3.80	\$ 66,120.00	\$ 3.00	\$ 52,200.00	\$ 5.25	\$ 91,350.00
9	Erosion Sediment Control (ESC)	1	LS	\$ 11,500.00	\$ 11,500.00	\$ 9,500.00	\$ 9,500.00	\$ 1,250.00	\$ 1,250.00	\$ 1,000.00	\$ 1,000.00	\$ 8,000.00	\$ 8,000.00
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
			<b>TOTAL</b>		\$ 643,103.30		\$ 660,700.00		\$ 660,902.00		\$ 700,790.00		\$ 760,940.00
			<b>% Eng Est</b>		<b>78%</b>		<b>80%</b>		<b>80%</b>		<b>85%</b>		<b>92%</b>
			<b>Cost per LF</b>		\$ 36.96		\$ 37.97		\$ 37.98		\$ 40.28		\$ 43.73

Item No.	Description	Quantity	Unit	Average Bid		Engineer's Estimate	
				Unit Price	Cost	Unit Price	Cost
1	8" DI Pipe - Class 50	17400	LF	\$ -	\$ -	\$ -	\$ -
2	6" Fire Hydrant Assem Complete	29	EA	\$ -	\$ -	\$ -	\$ -
3	6" Fire Hydrant Stub	4	EA	\$ -	\$ -	\$ -	\$ -
4	8" Valve w/ Valve Box	22	EA	\$ -	\$ -	\$ -	\$ -
5	12" Tee/Bend/Reducer	2	EA	\$ -	\$ -	\$ -	\$ -
6	Connect to Existing Water Line	1	EA	\$ -	\$ -	\$ -	\$ -
7	Jack & Bore	50	LF	\$ -	\$ -	\$ -	\$ -
8	Restoration Complete	17400	LF	\$ -	\$ -	\$ -	\$ -
9	Erosion Sediment Control (ESC)	1	LS	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -
			<b>TOTAL</b>		\$ -		\$ -
			<b>% Eng Est</b>		<b>0%</b>		<b>0%</b>
			<b>Cost per LF</b>		\$ -		\$ -

I certify that the above is a true and accurate tabulation of the bids.				BY	Paul G. Trepaney, P.E.	Tetra Tech, Inc.	Date
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EXHIBIT N

TOTAL CONSTRUCTION COSTS

**Boone County Rural Water - Phase II Water Main Extension  
Design Cost and Total Project Costs  
Preliminary Engineer's Construction Cost Estimate**

Description	Cost
Basic Desing	\$200,000
Survey	\$55,000
Easements	\$10,000
Modeling	\$18,000
PSC Support	\$5,000
Geotechinal Services	\$11,500
Misc. Expenses	\$5,000
<b>Total Design</b>	<b>\$304,500</b>

Item	Cost
Design	\$304,500
Contract 2A	\$695,244
Contract 2B	\$1,244,045
Contract 2C	\$824,307
Contract 2D	\$791,681
<b>Total Project Cost</b>	<b>\$3,859,777</b>

**Total Construction Cost Budget**

Proposed Phase II - Year 2005								
					Number of Customers Potential	Density Cust/Mile	Footage	Estimated Budget Cost
Contract 2A	Big Bone Church Rd. to Gum Branch Rd.				36	23.0	8,250	\$ 354,740
	Michelle Drive/Brian Court				6	14.8	2,138	\$ 91,915
	Kirby Lane/Forest View Drive				23	28.2	4,312	\$ 185,385
			Subtotal		65	23.3	14,700	\$ 632,040
Contract 2B	East Bend Rd, Ky 338 to Locust Grove				187	45.9	21,500	\$ 1,130,950
Contract 2D	Side Streets off East Bend Road							
	Emerald Road				17	33.9	2,650	\$ 112,225
	Possum Patch/Kirby Drive				23	17.1	7,120	\$ 301,390
	Wolfe Road				10	30.5	1,730	\$ 73,230
	Locust Grove Road				33	31.7	5,500	\$ 232,865
			Subtotal		83	25.8	17,000	\$ 719,710
Contract 2C	Petersburg Road, Ky 20 to Caribou				41	20.6	10,500	\$ 452,230
	Anson Lane (Pvt)/Brewer Lane (Pvt)				18	20.1	4,740	\$ 204,140
	Caribou Drive				12	29.3	2,160	\$ 93,000
			Subtotal		71	21.5	17,400	\$ 749,370
			<b>Total</b>		<b>406</b>	<b>30.4</b>	<b>70,600</b>	<b>\$ 3,232,070</b>
							<b>Contingencies @ 10%</b>	<b>\$ 323,207</b>
							<b>Engineering, Legal, Finance @ 15%</b>	<b>\$ 533,292</b>
	Ave cost/unit	\$ 10,070					<b>Estimated Project Cost</b>	<b>\$ 4,088,569</b>
<b>Note: Excludes grant funding provided by the Commonwealth of Kentucky</b>								
<b>Project Schedule:</b>								
	Public Meetings				3/17, 3/24		and 3/28/05	
	Final Design				5/1/2005			
	Permits/ Approval				7/15/2005			
	PSC Approval				9/1/05 Est.			
	Bid Project				9/1/2005			
					Likely bid in multiple phases subject to customer commitments			
	Construction				6-12 months			
					Subject to phasing of contracts			

Boone County Rural Water - Phase II Water Main Extension						
Contract 2A - Big Bone Church Road						
Construction Cost Estimate						
Item	Description	Quantity	Unit	Unit Price	Cost	
1	8" DIP w/Polywrap	14700	LF	\$33.00	\$485,100	
2	6" Fire Hydrnt Assembly Complete	26	EA	\$2,200.00	\$57,200	
3	6" Fire Hydrant Stub	4	EA	\$850.00	\$3,400	
4	8" Valve w/ Box	20	EA	\$800.00	\$16,000	
5	6" Valve w/ Box	3	EA	\$780.00	\$2,340	
6	Connection to Existing System	1	EA	\$1,200.00	\$1,200	
7	Contrld Low Strngth Matls (CLSM)	625	LF	\$10.00	\$6,250	
8	Concrete Encasement	25	LF	\$70.00	\$1,750	
9	Restoration/ESC (Sts, Drives, Yds)	14700	LF	\$4.00	\$58,800	
			Subtotal		\$632,040	
			10% Contingency		\$63,204	
			<b>Total</b>		<b>\$695,244</b>	
			<b>Cost/LF</b>		<b>\$47.30</b>	

<b>Boone County Rural Water - Phase II Water Main Extension</b> <b>Contract 2B - East Bend Road</b> <b>Engineer's Construction Cost Estimate</b>					
Item	Description	Quantity	Unit	Unit Price	Cost
1	12" DIP w/Polywrap	21500	LF	\$37.00	\$795,500
2	6" Fire Hydnt Assembly Complete	33	EA	\$2,200.00	\$72,600
3	6" Fire Hydrant Stub	9	EA	\$850.00	\$7,650
4	12" Valve w/ Box	23	EA	\$800.00	\$18,400
5	8" Valve w/ Box	10	EA	\$780.00	\$7,800
6	8" DIP w/Polywrap	100	LF	\$33.00	\$3,300
7	Jack and Bore	300	LF	\$375.00	\$112,500
8	Connection to Existing System	1	EA	\$1,200.00	\$1,200
9	Contrl'd Low Strngth Matls (CLSM)	2600	LF	\$10.00	\$26,000
10	Restoration/ESC (Sts, Drives, Yds)	21500	LF	\$4.00	\$86,000
Subtotal					\$1,130,950
10% Contingency					\$113,095
<b>Total</b>					<b>\$1,244,045</b>
<b>Cost/LF</b>					<b>\$57.86</b>

<b>Boone County Rural Water - Phase II Water Main Extension</b> <b>Contract 2C - KY 20, Petersburg Road</b> <b>Engineer's Construction Cost Estimate</b>						
Item	Description	Quantity	Unit	Unit Price	Cost	
1	8" DIP w/Polywrap	17400	LF	\$33.00	\$574,200	
2	6" Fire Hydrnt Assembly Complete	29	EA	\$2,200.00	\$63,800	
3	6" Fire Hydrant Stub	4	EA	\$850.00	\$3,400	
4	8" Valve w/ Box	22	EA	\$780.00	\$17,160	
5	12" Tees/Bends/Reducers	2	LF	\$630.00	\$1,260	
6	Jack and Bore	50	LF	\$375.00	\$18,750	
7	Connection to Existing System	1	EA	\$1,200.00	\$1,200	
8	Restoration/ESC (Sts, Drives, Yds)	17400	LF	\$4.00	\$69,600	
				Subtotal		\$749,370
				10% Contingency		\$74,937
				<b>Total</b>		<b>\$824,307</b>
				<b>Cost/LF</b>		<b>\$47.37</b>

**Boone County Rural Water - Phase II Water Main Extension  
Contract 2D - side streets to East Bend Road  
Engineer's Construction Cost Estimate**

Item	Description	Quantity	Unit	Unit Price	Cost
1	8" DIP w/Polywrap	17000	LF	\$33.00	\$561,000
2	6" Fire Hydrnt Assembly Complete	33	EA	\$2,200.00	\$72,600
3	6" Fire Hydrant Stub	1	EA	\$850.00	\$850
4	8" Valve w/ Box	7	EA	\$780.00	\$5,460
5	Connection to Existing System	4	EA	\$1,200.00	\$4,800
6	Contrl'd Low Strngth Matls (CLSM)	700	LF	\$10.00	\$7,000
7	Restoration/ESC (Sts, Drives, Yds)	17000	LF	\$4.00	\$68,000
Subtotal					\$719,710
10% Contingency					\$71,971
<b>Total</b>					<b>\$791,681</b>
<b>Cost/LF</b>					<b>\$46.57</b>